Name _____   Block _____

In the lab we did before vacation, we constructed similar trianges three ways. Here we will prove that the constructions really were similar.

The first was to construct a triangle with two angles congruent to angles in the original. It's hardly worth proving that the two are similar because we can just use the AA theorem.

Now we will prove that the other two constructions were also similar. This is not much harder, but it does involve dealing with ratios and proportions. You will use SSS˜and SAS˜as well as the fact that all radii of a circle are congruent.
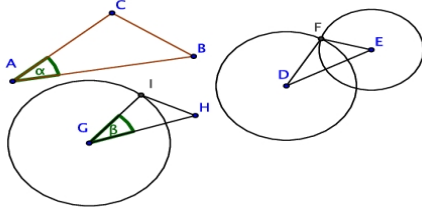
1. Given: Radius of $\odot G$ is $AC\frac{GH}{AB}$; $\angle\alpha \cong \angle\beta$. Prove that $\triangle ABC \sim \triangle GHI$.

2. Given: Radius of $\odot D$ is $AC\frac{DE}{AB}$; Radius of $\odot E$ is $BC\frac{DE}{AB}$. Prove that $\triangle ABC \sim \triangle DEF$.